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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,310	04/06/2001	Harry Chan	1142-2/AMF	4151

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EXAMINER

DEL SOLE, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 10/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/827,310

Applicant(s)

CHAN ET AL.

Examiner

Joseph S. Del Sole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-10,13-19,22-27,29,31-35 and 39-53 is/are allowed.
- 6) ☒ Claim(s) 37,38 and 54 is/are rejected.
- 7) ☒ Claim(s) 2,11,12,20,21,28,30 and 36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 6/20/01 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP 609. It has been placed in the application file and the information referred to therein has been considered as to its merits.

### ***Claim Objections***

2. Claims 2, 11, 12, 20, 21, 28, 30, 36 and 38 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Each of these claims fail to further limit the structure of the apparatus claimed in the parent claim(s). Sections 2114 and 2115 set forth that apparatus claims must be structurally distinguishable from the prior art and that the manner of operating the apparatus does not differentiate the apparatus claim. Claims 2, 12 and 21 do not further limit claims 1, 3 and 4 respectively because the air space is not further limited structurally by stating that the function of the air space is to allow differing temperatures of different extrudate. Claims 11, 20, 28, 36 and 38 do not further limit claims 10, 19, 27, 30 and 37 respectively because the vacuum ports are not further limited structurally by stating that the device is operated such that vacuum is introduced through the vacuum ports. Claim 30 does not further limit claim 29 because the structure of the apparatus is not further limited by stating that the two extrudates are at different temperatures in the two layer-forming channels.

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3. Claim 54 is objected to because of the following informalities: **a)** claim 54 lacks the appropriate period "." at the end of the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Lupke (5,186,878).

Lupke teaches a vacuum cooling mandrel (Fig 1, #46) for an extrusion die, the vacuum cooling mandrel having a single cooling channel (Fig 1, #25 and col 5, lines 5-25, the channel extends continuously helically from #20, through #25 and back through #21) and multiple vacuum ports (Fig 1, #39), the multiple vacuum ports disposed along an outer surface of the cooling mandrel (Fig 1).

As discussed above, claim 38 fails to further limit claim 37, however Lupke does teach the step of introducing vacuum through the ports (col 5, lines 25-40).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lupke (5,186,878) in view of Chan et al (4,808,098).

Lupke teaches the apparatus as discussed above including a method of shaping a pipe using the vacuum cooling mandrel with the step of introducing a vacuum through the vacuum ports (col 5, lines 25-40).

Lupke fails to teach the pipe being shaped being a multi-layered pipe.

Chan teaches an apparatus having first and second mandrels (Figure, #s 4 and 5) that communicate with two openings (Figure, #s 6 and 21) to produce a multi-layer

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pipe and teaches a method of using a vacuum cooling mandrel (Figure) and introducing a vacuum through vacuum ports (Figure, #70) for the purpose of shaping and cooling the multi-layered pipe (col 1, lines 5-10).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the method and apparatus of Lupke with first and second mandrels that communicate with two openings, such that a method of shaping multi-layered pipe could be operated, as taught by Chan because it is well known that a cooling mandrel may be used on either single- or multi-layered pipes (Chan: col 2, lines 26-32).

***Allowable Subject Matter***

10. Claims 1, 3-10, 13-19, 22-27, 29, 31-35 and 39-53 are allowed.

11. The Examiner notes that although claim 47 is dependent on objected claim 30, claims 47-53 remain allowed. However, should claim 30 be cancelled, claim 47 should be amended to be dependent on claim 29.

12. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest an extrusion die having first and second die assemblies, each assembly having an extrusion head, a nozzle and hollow and inner mandrels; the nozzle and inner mandrel of each assembly defining a layer-forming channel in fluid communication with a die gap, wherein the central portion of the nozzle of the second die assembly is co-axially located within the inner mandrel of the first die assembly. The closest prior art of record, Chan (4,808,098), teaches a pair of layer-forming channels but the channels share a mandrel. The Examiner notes that

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claims 39-54 have been interpreted such that the structures claimed in parent claims 1, 30 and 37 have patentable weight in method claims 39-54 due in part to the inclusion of those structures of the parent claims in the bodies of the method claims.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph S. Del Sole whose telephone number is (703) 308-6295. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Wanda Walker, can be reached at (703) 308-0457. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



J.S.D.  
October 1, 2003